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KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK,
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ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: NOVEL NUCLEIC ACIDS AND POLYPEPTIDES

(57) Abstract: The present invention provides novel nucleic acids, novel polypeptide sequences encoded by these nucleic acids and uses thereof.

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/30720

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : C12N 15/12, 15/00; C12Q 1/68; C12P 21/02
US CL : 536/23.5, 23.1; 435/320.1, 252.3, 325, 6, 69.1

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
U.S. : 536/23.5, 23.1; 435/320.1, 252.3, 325, 6, 69.1

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
Compugen, SEQ ID NO: 1

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	SELBY, M.J. et al, Analysis of a major human chorionic somatomammotropin gene, Journal of Biological Chemistry, 10 November 1984, Vol. 259, No. 10, pages 13131-13138, see entire document and sequence alignment attached to the reference, comapre SEQ ID NO:1 to Selby et al Figure 2.	2

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance
"B" earlier application or patent published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search

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Name and mailing address of the ISA/US

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/30720

Box I Observations where certain claims were found unsearchable (Continuation of Item 1 of first sheet)

This international report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claim Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claim Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. ☐ Claim Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of Item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:
Please See Continuation Sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.: 1-9, 13-15, 19, and 22-26 as they pertain to SEQ ID NO: 1.

Remark on Protest

☐
☐

The additional search fees were accompanied by the applicant's protest.

No protest accompanied the payment of additional search fees.

BOX II. OBSERVATIONS WHERE UNITY OF INVENTION IS LACKING

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1. In order for all inventions to be examined, the appropriate additional examination fees must be paid.

Group I, claim(s) 1-9, 13-15, 19, and 22-26, drawn to polynucleotides, vectors, transformed host cells, nucleic acid molecular hybridization assays, amplification assays, and methods for producing polypeptides.

Group II, claim(s) 10, 11, 16-18, 20, and 21, drawn to polypeptides, compositions containing polypeptides, and polypeptide binding assays.

Group III, claim(s) 12, drawn to antibodies.

The inventions listed as Groups I-III do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: The polynucleotides, vectors, transformed host cells, nucleic acid molecular hybridization assays, amplification assays, and methods for producing polypeptides of Group I all have the special technical features of the properties of SEQ ID NOs: 1-684, which are not shared by either one of Groups II or III. Group II is directed to polypeptides, compositions containing polypeptides, and polypeptide binding assays that all have the special technical features of the polypeptides encoded by SEQ ID NOs: 1-684 (which are presumable the polypeptides of SEQ ID NOs: 685-1368), which are not shared by Groups I or III. Since each of the three Groups mentions or requires the use of 684 separate and unrelated nucleic acids and/or polypeptides, the total number of inventions for claims 1-21 contained in Groups I-II is $684 \times 3 = 2052$.

Each of the Groups mentions or requires or requires the use of a large number (684) of separate and unrelated nucleic acid and/or polypeptides. No matter which additional Group(s) applicant elects, applicant is further required to select for search one SEQ ID NO within the Group(s) for search. In any event, the first mentioned SEQ ID NO in Group I will be searched. Any additional SEQ ID NO to be searched requires one additional search fee per SEQ ID NO. In the absence of payment of additional search fee(s) only the first mentioned SEQ ID NO in Group I will be searched. Should applicant pay fee(s) for additional Groups to be searched, the first mentioned SEQ ID NO within the selected Group will be searched unless applicant directs otherwise.

Claims 22-26 are drawn to combinations of polynucleotides. The simplest "combination" recited and the first "combination" recited requires only SEQ ID NO: 1, and so that is the combination that will be searched. For any additional combination to be searched, applicant is required to name that combination. A total of over 2.44×10^{204} combinations that contain 342 different SEQ ID NOs exists. There are additional combinations of from 2 to 241 sequences and from 139 to 684 sequences, the number of which will not be calculated for purposes of this communication. Applicant is required to pay one additional search fee for each additional combination to be searched. The figures on page 1, part 2 of this communication are not accurate because the limits of field size in the form-completing program are exceeded by the actual number of inventions claimed.